

Agency: Commerce, Community and Economic Development**Grants to Named Recipients (AS 37.05.316)****Grant Recipient: Community & Economic Dev****Project Title:****Project Type:** New Construction and Land Acquisition

Don Bennett Shooting Range - Range Construction

State Funding Requested: \$75,000**House District:** Fairbanks Areawide (7-11)

Future Funding May Be Requested

Brief Project Description:

Since 1960 all Interior law enforcement agencies (including the Fairbanks, North Pole, University, and Airport Police Departments, as well as the Alaska State Troopers and a host of Federal Agencies) have used the secured, law enforcement only, Don Bennett Shooting Range. Unfortunately, the expansion of the Fairbanks International Airport facilities and runway extensions have placed this range in peril. This grant will provide funding for access to the new range location.

Funding Plan:

| | |
|-------------------------------|-------------|
| Total Project Cost: | \$2,519,350 |
| Funding Already Secured: | (\$0) |
| FY2012 State Funding Request: | (\$75,000) |
| Project Deficit: | \$2,444,350 |

*Funding Details:**none to date***Detailed Project Description and Justification:**

All Interior law enforcement agencies have enjoyed the use of the Don Bennett Firing Range for many years. This secured "law enforcement only" training facility is located on the Fairbanks International Airport property. The expansion of the airport facilities and expansion of the runways have placed this range facility in peril, and it will most likely soon be altered for destruction.

It is important that our local law enforcement agencies have a secured range facility where they can regularly train and shoot for qualification. Given the tactical nature of law enforcement training, associated security organizations, and all participating agencies, it is simply not possible to try to use a "shared use" range with the public.

The Fairbanks International Airport has graciously offered use of an alternative parcel of land on their property for the relocation of this range that would take the range out of the flight-path of the airport's runways. The location offered is on the remote Southwest corner of the Airport property, and will pose no neighborhood noise issues.

Project Timeline:

| | |
|-------------|--|
| 2011 | Ground prep for access road to new range |
| 2012 | Utilities, land prep |
| 2013 - 2015 | Build Range Facility |

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

| |
|-----------------------------------|
| Alaska Peace Officers Association |
|-----------------------------------|

Grant Recipient Contact Information:

| | |
|---------------|--|
| Name: | Alana Humphry |
| Title: | Executive Vice President |
| Address: | 2300 W. 26th Ave. Anchorage, Alaska 99517 |
| Phone Number: | (907)770-7349 |
| Email: | ahumphrey@bgcalaska.org |

Has this project been through a public review process at the local level and is it a community priority? ☐ Yes ☒ No

Attendance: see sign in sheet

The following notes summarize the systematic planning discussions had during this meeting, arranged by topic. Recommended paths forward and assignment of activities were developed based on this discussion and are provided at the end of these notes.

Problem Statement: How can affected parties work together to move the current range to a new location?

- Don Bennett Firing Range is within Safety Zone of General Aviation runway, firing must cease when an aircraft is flying over. FAA/Homeland Security has requested the range be moved.
- Airport police, state troopers, and Alaska Peace Officers Association (APOA) all use this facility, and need to continue to have a site for training.
- Currently no funding sources have been identified to pay for construction of a new range.

Future Location/Design of New Range

- Fairbanks Airport (FAI) Master Planning has identified location to south of current site near the borrow pit, still on airport property. However, a site visit to determine feasibility has not been done at this time.
- Airport property to the NE of the borrow pit is not an option, as it is prime real estate for future airport use.
- Both FAI and APOA would like new range site usage to be limited to current users (no public access) from the safety and security perspective. Creation of two ranges on the same site (one public and one private) was discussed as a possibility but FAI was not in favor of this option.
- A way around this requirement would be to move the new range location off airport lands. However, the group acknowledged the difficulty of finding a new range location that had public support (due to noise issues).
- APOA obtained cost estimate from FAI for two designs for a new range (\$ 2.5-3.7 Million). Both options are earthen berms based on Sitka Design and do not include environment protection considerations (which are not mandatory). These costs assumed \$700,000 for remediation.
- Estimate on borrow fill requirements for a new range was 11, 3000 CY at \$5.80/CY. It is unlikely that free sources of fill could be identified.
- APOA does not want an indoor air range, due to indoor air issues
- The group did not want to pursue the No Action Alternative of leaving the range at the current site and adding engineering controls to protect aircraft and adding environmental protection measures. All agreed it was just a matter of time before the current range location would be required to move.

Project Funding

- FAI does not have funds to pay for new range construction and would not likely be able to obtain additional funding from FAA. They also cannot use funds from

- their environmental program for remediation as that program is paid for by the airlines and is focused on airline related issues.
- No Stimulus (ARRA) money was identified that could be used to fund construction or remediation.
 - Alaska State Troopers do not have a source of funding for construction. They receive funding to replace or upgrade equipment.
 - If there was regulatory enforcement requiring remediation of the site, the priority of moving the range would increase and likely funded. However, this is likely at the expense of other more pressing priorities and the group was not in favor of this approach.
 - Efforts could be made to partner with public groups to raise funds, such as Tanana Valley Sportsman Association (TVSA) or the Alaska Community Foundation (<http://www.alaskacf.org>). However, the group was concerned that this would increase requirements for public use of range which FAI and APOA were not in favor of.
 - Group should explore whether Fairbanks North Star Borough (FNSB) could aid with funding new construction, since they funded the construction of the current range. FAI had paperwork on past effort if needed.
 - APOA could lobby the legislature to fund construction.
 - Discussed phasing of project, to include the following options. However, the group preferred to assume the whole project would be executed at the same time since the likelihood of receiving the full amount in increments was low.
 - Doing remediation before or after range construction
 - Building berms prior to building supporting infrastructure
 - ADEC could potentially fund remediation through their Capital Improvement Program, since the site is on state land.
 - EPA could potentially provide sampling team to design and conduct additional sampling on the current range.

Additional Site Characterization Needs

- A brief site investigation summary was presented (ppt presentation)
- Additional site investigation should be targeted to sampling that helps inform a better cost estimate for remediation. Option to either get more data or simply just double the volume estimated in Shannon & Wilson report to account for uncertainties.
- Groundwater flow is generally to the northwest. Sampled well points represent worse case of groundwater impact. Based on the existing data, additional downstream wells are not likely.
- Data gaps from initial site investigation include:
 - Back side of the berm not characterized;
 - Sampling was not done high on the sides of the berm
 - The old berm face was not found.
 - Other COCs (other metals and PAH) not analyzed in soil or groundwater. Other metals depend on type of bullet and likely include Cu, Zn, As, and Sb

- Potentially need data representing background concentrations for Sb, if found at site.
- Treatability testing to include:
 - Test sieving of soil to test feasibility/effectiveness of physically screening bullets.
 - Conduct bench scale testing of different additives and portions of additives.

Logistics

- Assume well points in range area are still in place
- Sampling needs to be scheduled in advance to allow law enforcement training on range to be managed
- It is anticipated that sampling efforts would be less than one week in duration

Remediation Options at Current Range

- The likely most cost effective remediation of current range soils is to excavate soils above cleanup level (1,000 ppm), segregate bullets, treat remaining materials and either
 - Reuse treated soils on range: or
 - Haul soils to a landfill. It is not clear if AK regulations will allow treated soils to go to something less than a Subtitle C landfill.
- Soil washing/acid extraction: would result in more lead being removed from soils, but would likely be cost prohibitive based on small volume of soil and high mobilization costs.
- Bullet separation and stabilization costs (using 4% Enviroblend) at Fort Lewis were \$130/ton.

Reuse of Current Range soil

- Similar to work done at Fort Lewis, soils excavated from the current range could likely be reused at the new range. However, the current estimate of soil volume requiring remediation (max 1,500 CY) is much less than that required for the new range (11,300 CY).
- RCRA would allow reuse of contaminated soil from one active range to another active range that is located on the same contiguous property.
- If contaminated soils were hauled from the current range to a range that is not active, it is likely that RCRA would require soils to not only pass TCLP criteria, but also be below the bulk soil cleanup level of 400 mg/kg. This criteria is based on residential values. EPA would consider an exposure scenario (commercial/industrial) and cleanup level less stringent than this (1,000 mg/kg).
- Removal of bullets and stabilization of soils will not likely result in soils below either residential or industrial cleanup levels.
- There are no RCRA transportation issues, because transport to proposed new site would not be on public roads.
- Total volume of the current berms has not been calculated. Clean berm materials (less than 400 mg/kg) could be reused at the new range site without RCRA restrictions.

Path Forward

Based on the above discussion, the following two pathways were identified as courses of action to help determine project direction. Generally, the concept is to obtain information relevant to developing a remediation plan for the current range (Table 1) while researching options for finding funding for construction of a new range (Table 2). The team recognizes that based on the schedules for these two paths, the potential proposal to legislature will not likely be based on a detailed cost estimate (given that sampling with have just been conducted prior to October legislature deadline)

Table 1: Sampling/Remediation Path

| Activity | Responsibility | Due date |
|--|--|-----------------|
| Determine how to best coordinate ADEC scope at Delta site and needed FAI site activities | ADEC | April 2010 |
| Apply for EPA funding for sampling | ADEC/APOA | May-June 2010 |
| Discuss landfill restrictions with FNSB | ADEC | May-June 2010 |
| EPA provides funds and generates conceptual work plans that includes characterization and bench testing described in notes | EPA with ADEC review | June 2010 |
| Develop final work plan, including any components IDed as being needed by Landfill | EPA with ADEC review | Summer 2010 |
| Conduct field work (coordinate time with APOA) | EPA | September 2010 |
| Develop report that includes remedial option refinements to: <ul style="list-style-type: none"> • Landfill costs • Treatment costs • Total remediation volumes • Total berm volumes | EPA with ADEC review | Jan 2011 |
| Conduct meeting to discuss results and path forward: <ul style="list-style-type: none"> Option A: Funding for new range was obtained, proceed with cleanup Option B: Funding was not obtained – consider no action engineering controls/ environmental protection measures | EPA, ADEC, APOA, FAI, State Troopers (potentially FNSB or FAA) | Spring 2011 |
| Propose cleanup funds be obtained from ADEC Capital Fund. Amount would be different depending on Option A or B | ADEC | Spring 2011 |

Table 2: New Range Construction Fund Path

| Activity | Responsibility | Due Date |
|---|-----------------------|-----------------------|
| Conduct site visit to determine proposed new location is viable | FAI, ADEC, APOA | May 2010 (snow melt) |
| Relook at new range design for potential incorporation of environmental design features and revise cost estimate | FAI | May 2010 |
| Initiate discussions with FNSB regarding partnering | ADEC/ APOA | May 2010 |
| Query FAA about other potential sources of funding for construction | FAI | May 2010 |
| Coordinate with public groups (eg. TVSA) to determine potential for either 1) support to project or 2) support and potential funding for construction (if needed) | APOA | Summer 2010 |
| Conduct initial meeting with Interior to discuss adding to legislature. Discussions should emphasize team and sampling and remediation cost sharing. | APOA/ ADEC | Summer 2010 |
| Final Proposal to Interior that includes any results available from sampling as shown on Table 2 | APOA | October-November 2010 |

FIA Firing Range Estimate

9/18/2008

Option A:

| | Quantity | Unit Price | Total | |
|---|----------|--------------------|--------------|----------------|
| Access Road | | | | |
| Clearing/Grubbing (Acre) | 1.5 | \$10,800.00 | \$16,200.00 | |
| CABC (CY) | 580 | \$20.62 | \$11,959.60 | |
| Borrow (CY) | 11300 | \$5.80 | \$65,540.00 | |
| | | | Sum total = | \$93,699.60 |
| Utilities | | | | |
| Electrical Service (Above Ground) | 7 | \$10,000.00 | \$70,000.00 | |
| | | | | |
| 4' Pad/Liner | | | | |
| 3.75' Borrow (CY) | 19800 | \$5.80 | \$114,840.00 | |
| .25' CABC (CY) | 1325 | \$17.18 | \$22,763.50 | |
| HDPE Liner (SF) | 142500 | \$1.50 | \$213,750.00 | |
| | | | | \$351,353.50 |
| Range Facility | | | | |
| Clearing/Grubbing (Acre) | 3.5 | \$10,800.00 | \$37,800.00 | |
| Borrow for Berms (CY) | 5200 | \$5.80 | \$30,160.00 | |
| Topsoil for Berms (CY) | 2100 | \$10.00 | \$21,000.00 | |
| Seeding (Acre) | 0.5 | \$5,000.00 | \$2,500.00 | |
| Security Fence | 1550 | \$31.80 | \$49,290.00 | |
| Single Cantilever Gate | 1 | \$5,130.00 | \$5,130.00 | |
| | | | | \$145,880.00 |
| Pit Privy | | | | |
| 2 Stall Concrete Restroom | 1 | \$80,000.00 | \$80,000.00 | |
| | | | | \$80,000.00 |
| Building estimate | | | | |
| 3800 square foot facility, | 1 | \$1,050,000.00 | | |
| including finish work, HVAC, | | | | \$1,050,000.00 |
| and electrical | | | | |
| | | Total Direct Cost: | | \$1,627,233.50 |
| Design/Construction Costs | | | | |
| Mob/Demob estimated at 20% | | | | \$1,952,680.20 |
| Vehicles, office, etc. | | | | \$50,000.00 |
| Survey | | | | \$10,000.00 |
| ESCP estimated at 10% | | | | \$2,213,948.22 |
| PE, CE, ICAP estimated at 35% | | | | \$2,988,830.10 |
| Environmental Remediation for existing site | | | | \$700,000 |
| Estimated total cost of facility | | | | \$3,688,830.10 |

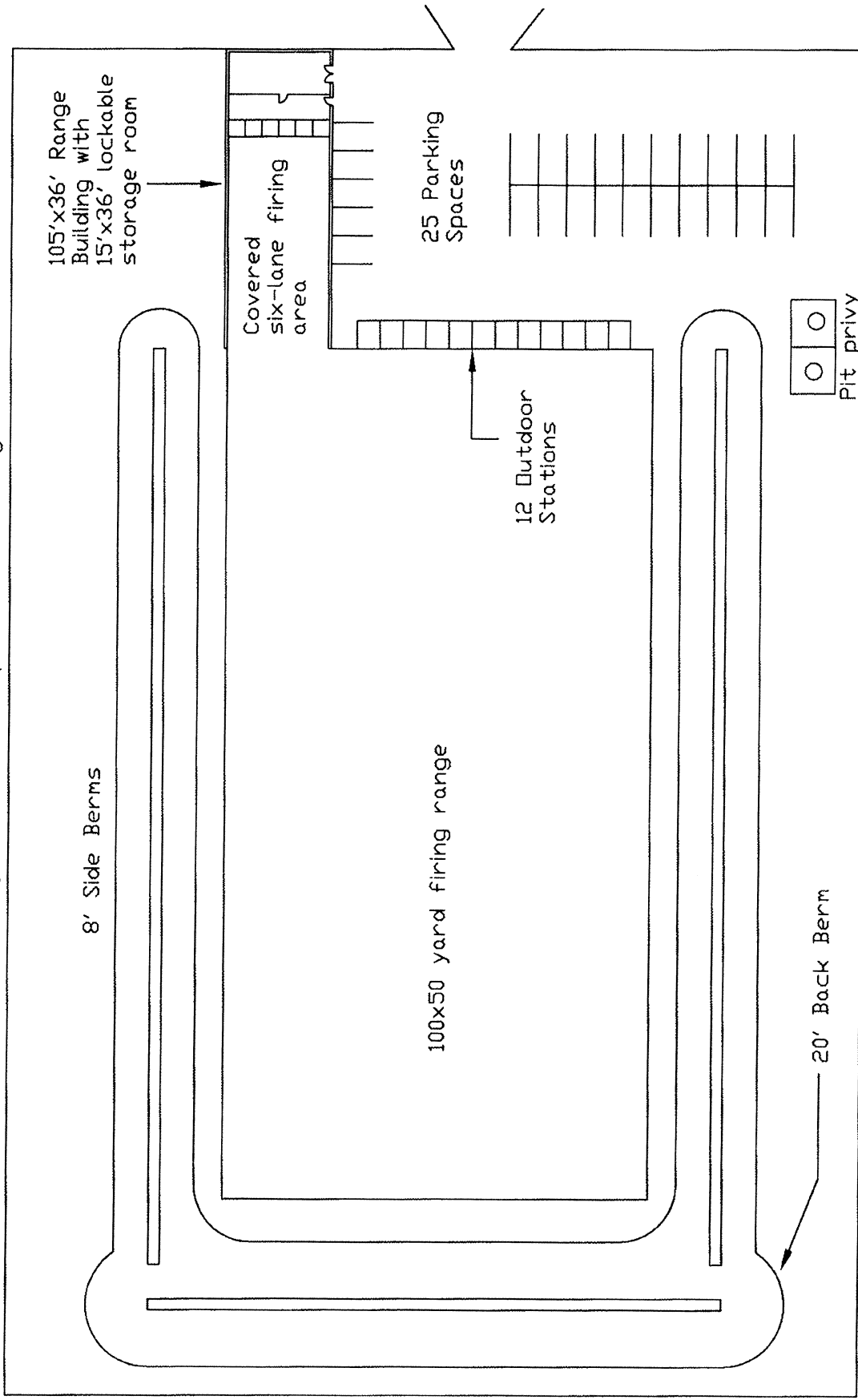
FIA Firing Range Estimate

9/18/2008

Option B:

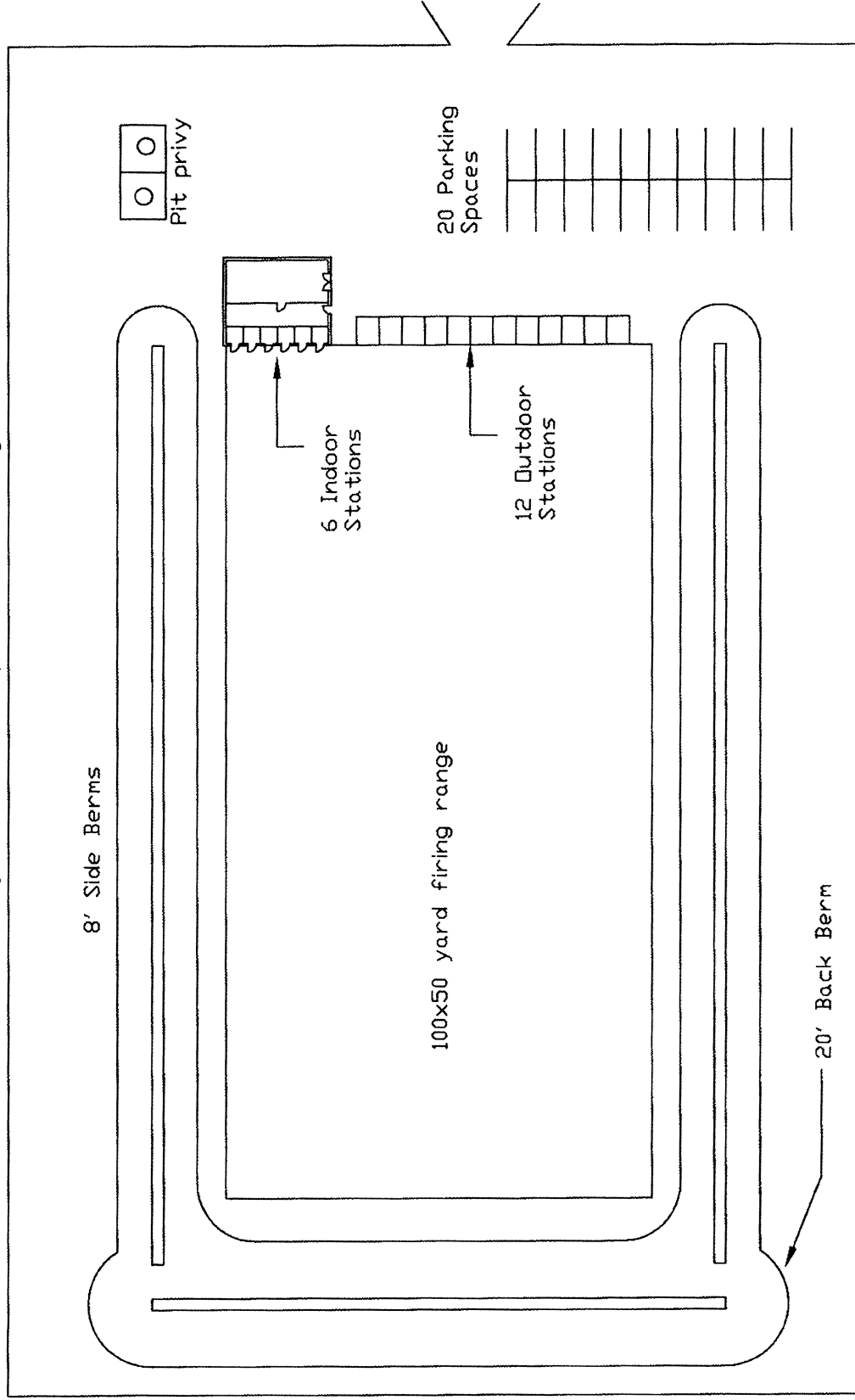
| | Quantity | Unit Price | Total | |
|--|----------|--------------------|--------------|----------------|
| Access Road | | | | |
| Clearing/Grubbing (Acre) | 1.5 | \$10,800.00 | \$16,200.00 | |
| CABC (CY) | 580 | \$20.62 | \$11,959.60 | |
| Borrow (CY) | 11300 | \$5.80 | \$65,540.00 | |
| | | | Sum total = | \$93,699.60 |
| Utilities | | | | |
| Electrical Service (Above Ground) | 7 | \$10,000.00 | \$70,000.00 | 70,000.00 |
| 4' Pad/Liner | | | | |
| 3.75' Borrow (CY) | 19800 | \$5.80 | \$114,840.00 | |
| .25' CABC (CY) | 1325 | \$17.18 | \$22,763.50 | |
| HDPE Liner (SF) | 142500 | \$1.50 | \$213,750.00 | |
| | | | | \$351,353.50 |
| Range Facility | | | | |
| Clearing/Grubbing (Acre) | 3.5 | \$10,800.00 | \$37,800.00 | |
| Borrow for Berms (CY) | 5200 | \$5.80 | \$30,160.00 | |
| Topsoil for Berms (CY) | 2100 | \$10.00 | \$21,000.00 | |
| Seeding (Acre) | 0.5 | \$5,000.00 | \$2,500.00 | |
| Security Fence | 1550 | \$31.80 | \$49,290.00 | |
| Single Cantilever Gate | 1 | \$5,130.00 | \$5,130.00 | |
| | | | | \$145,880.00 |
| Pit Privy | | | | |
| 2 Stall Concrete Restroom | 1 | \$80,000.00 | \$80,000.00 | |
| | | | | \$80,000.00 |
| Building estimate | | | | |
| 1080 square foot facility, including finish work, HVAC, and electrical | 1 | \$300,000.00 | | \$300,000.00 |
| | | Total Direct Cost: | | \$970,933.10 |
| Design/Construction Costs | | | | |
| Mob/Demob estimated at 20% | | | | \$1,165,119.72 |
| Vehicles, office, etc. | | | | \$50,000.00 |
| Survey | | | | \$10,000.00 |
| ESCP estimated at 10% | | | | \$1,347,631.69 |
| PE, CE, ICAP estimated at 35% | | | | \$1,819,302.78 |
| Environmental Remediation for existing site | | | | \$700,000 |
| Estimated total cost of facility | | | | \$2,519,302.78 |

8' Security Fence around perimeter of range



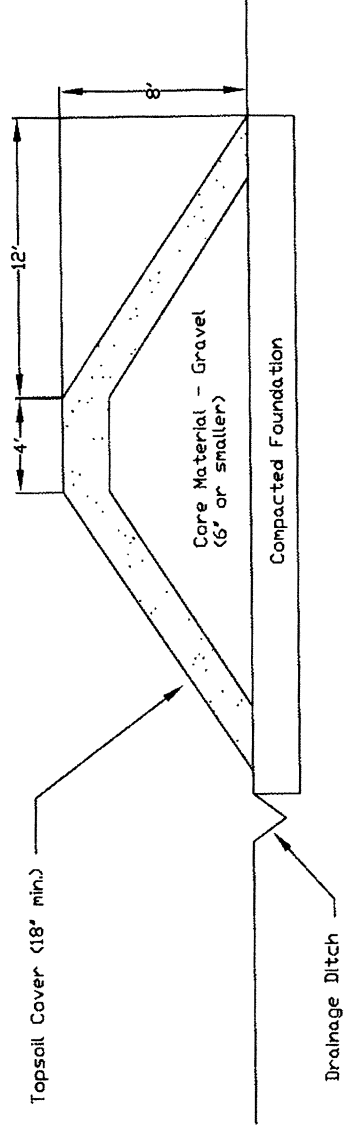
Option A: Enclosed 6 lane firing area, 12 outdoor stations, parking, and restrooms

8' Security Fence around perimeter of range

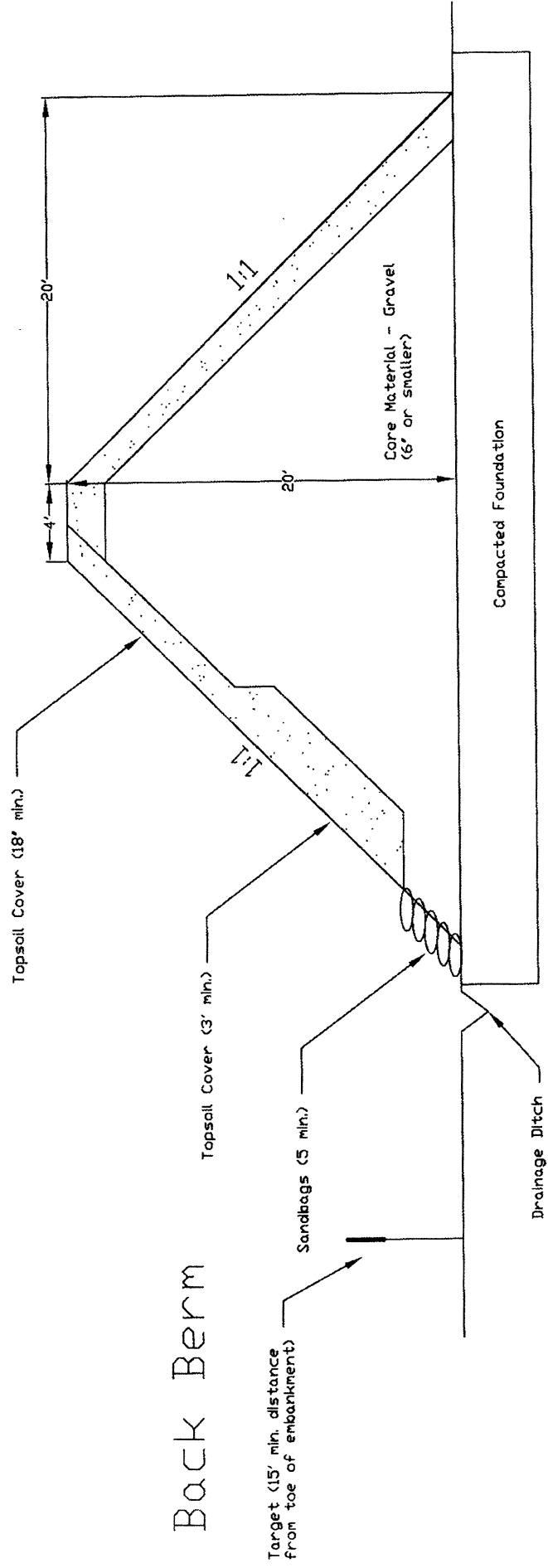


Option B: Smaller building modeled after Eielson AFB small arms range, shooting through half-doors, otherwise facilities are the same as Option A

Side Berm



Back Berm





Systematic Planning

What to expect ?

The Triad Approach



**Systematic
Project
Planning**



**Dynamic
Work
Strategies**

**Real-time Measurement
Technologies**

Systematic Planning

Session Goal: To define an approach to cleanup site while effectively managing future site development

Session Product: Written identification of the strategy to execute the project that has consensus of stakeholders

Responsibilities of Participants

- Identify issues that could reasonably impede completion of site goal
- Propose likely solutions for impediments and contingencies
- Develop consensus on overall strategy and high level logic
- Define roles in future activities
- Decisions to honored by existing and future members.
- Okay to revisit decisions, but it is a very serious matter since it impact future work

Defining a Project's Decision Uncertainty

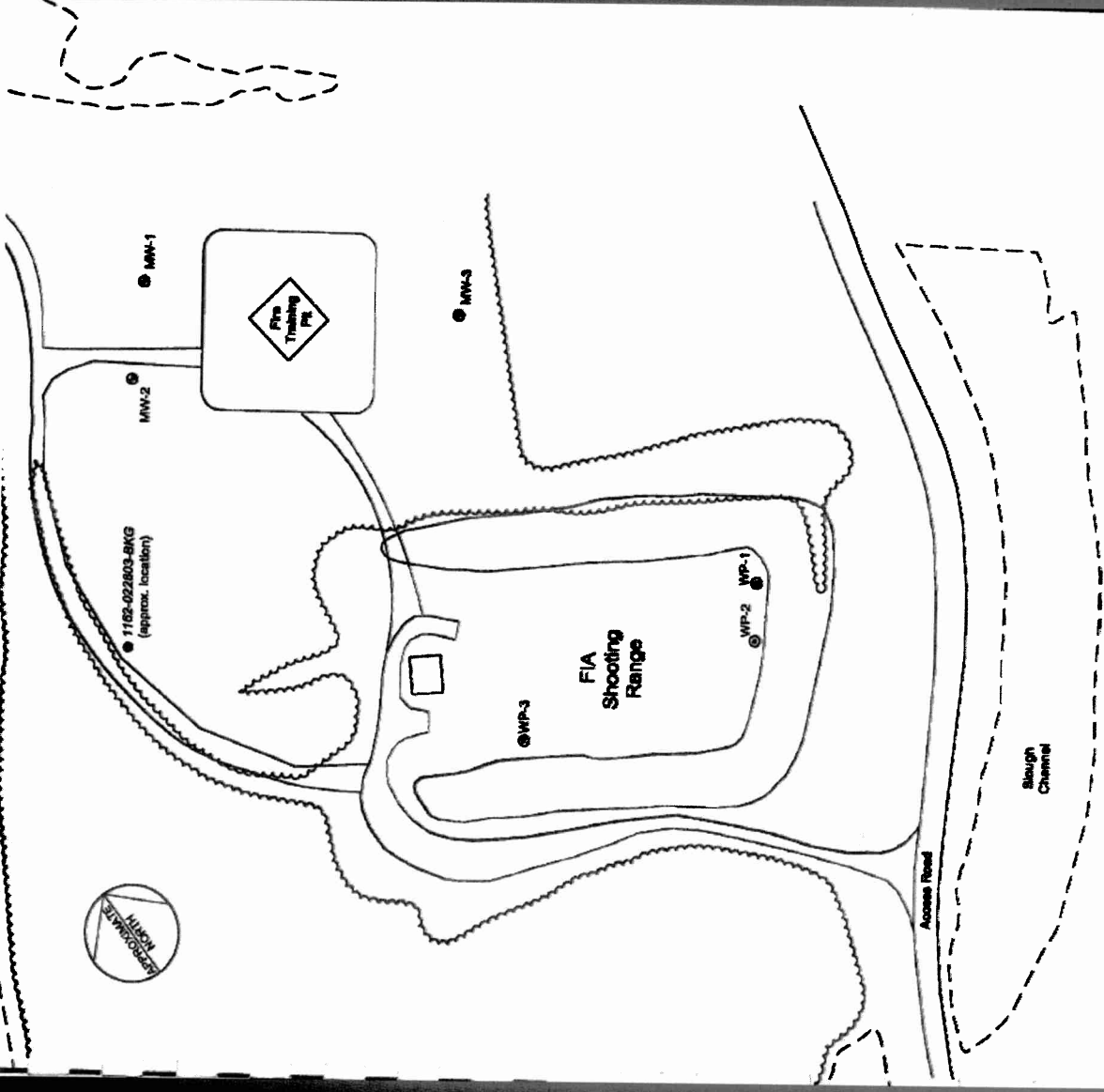
- Project decision uncertainty is defined in the context of the "Exit Strategy"
- Uncertainty has many forms
 - Contaminant and media heterogeneity
 - Investigation & remedial techniques
 - Schedule and budget
 - Future land use
 - Attitudes and positions of the public
 - Whether risk pathways are complete

New Range Site

- Option A:
 - Enclosed 6 lane firing area
 - Cost : 3.7 Million
- Option B:
 - Eilson AFB model, shooting thru half doors
 - Cost: 2.5 Million
- Both include remediation cost of \$700K
- Both need 11,600 CY of fill, cost of \$65 K

Site Background

- Don Bennett Shooting range established in 1960s
- 1983: Improved with side berms
- 1992: Added approx. 10 ' height to ranges

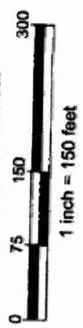


FIA SHOOTING RANGE FAIRBANKS, ALASKA

SITE SKETCH

BASEMAP SOURCE: FIA

APPROXIMATE SCALE:



LEGEND

- WP-2 Temporary Well Point
- MW-2 Monitoring Well
- Soil Sample

31-1-11182-001

APRIL 2003



SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 1

Site Investigation

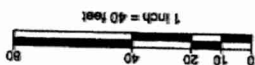
- Soil sampling
 - 75 surface soil, 10 subsurface location
 - Lead only, TCLP on highest sample
 - Pb = ND – 17,500 ppm (XRF)
 - XRF reading 500 ppm = 1,000 ppm lab
- Groundwater sampling
 - 3 well points
 - Total and dissolved lead
 - Total 1.96 -15.3 ppb, dissolved ND

Physical Observations and Volume Calculations

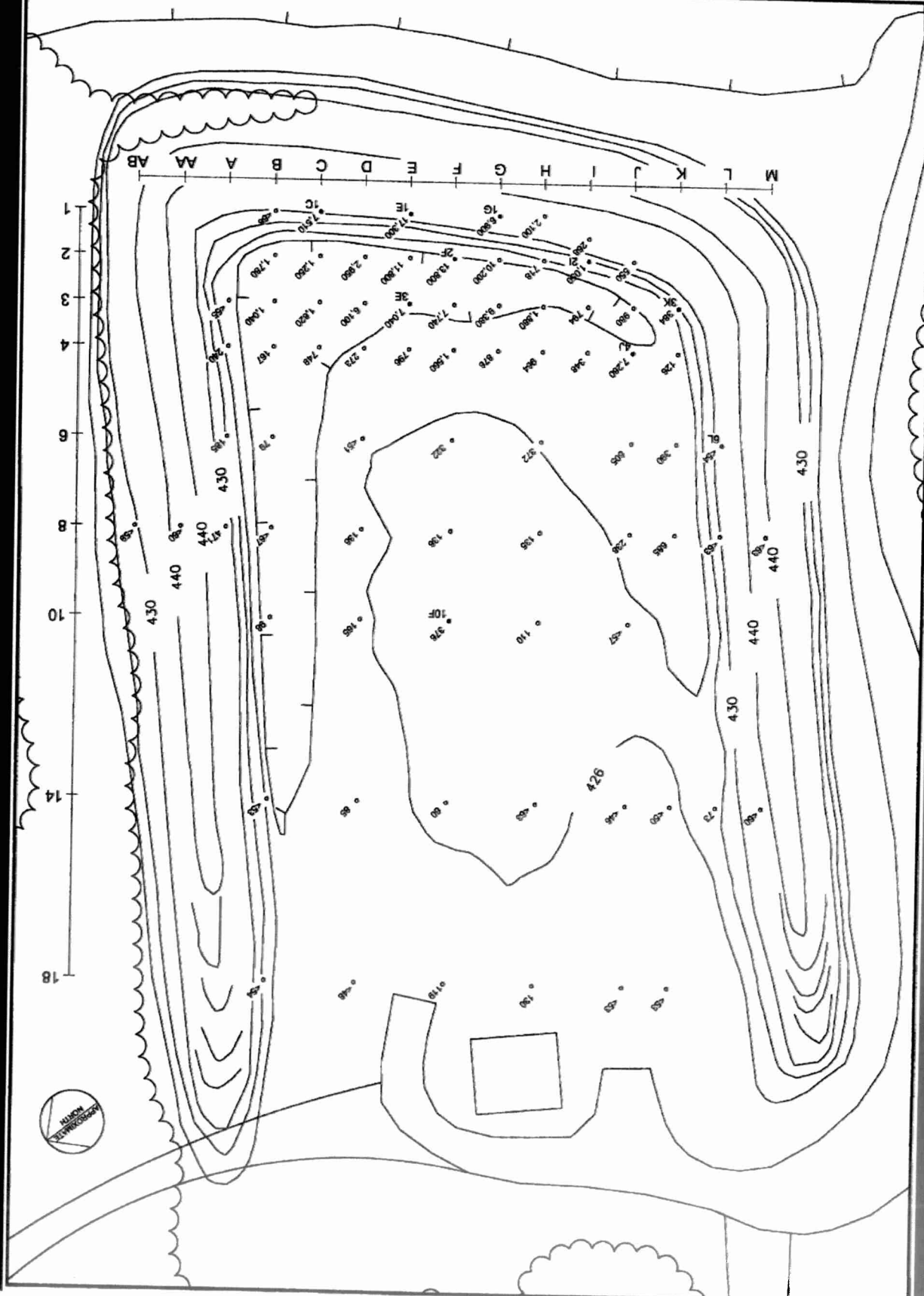
- Did not encounter old berm face in borings
- Bullets
 - Penetration observed only to 1'
 - Retained on No. 4 sieve (coarse sand)
 - 54% of weight in surface, 15% in subsurface
- Estimated volume of contaminated soil:
 - > 1,000 ppm: 670 CY (1000 tons)
 - > 400 ppm: 1,050 CY (1575 tons)

BASEMAP SOURCE: FIA

APPROXIMATE SCALE:



LEGEND
Lead Field Screening Result
(ppm, surface soil)
1E Soil Boring Location



Remedial Options

Alternative

2003 Cost (\$)

| | |
|---|-------------------|
| Fencing site | 74, 500 |
| Lead reclamation, Reuse of soil (110 tons/1,000 tons) | 79,400 / 794,000 |
| Landfilling (1,000 tons) | 541,400 |
| Soil washing | 148,000 - 848,000 |
| Acid extraction | NA |
| Solidification/ Stabilization | 163,000 - 908,000 |
| Asphalt Encapsulation | 173,000 - 958,000 |

Fort Lewis Small Arms Range

Remedial Action Approach

- Reuse contaminated soil at active range at the facility
- Regulatory requirements:
 - bullet fragments removed from the soil
 - residual soils treated to reduce leachability of lead to below hazardous waste levels

Performance Based Criteria

- Removal of lead contaminated soil to achieve cleanup criteria of 250 mg/kg using MTCA guidance
- Bullet removal so treated soil portions contain <0.1% bullet by volume
- Treated soil to meet the Federal RCRA hazardous waste and State Dangerous Waste criteria
- Recycling of the bullet waste stream encouraged

Remediation Process

- Excavated soils sieved using power screen to generate three waste streams:
 - Plus 1 ½ inch – cleaned and left on site
 - Between 1 ½ and 7/16 inches – bullet fragments removed with magnets. Fragments sent to a recycling facility and the remaining material left on-site
 - Less than 7/16 inch - treated with 4% EnviroBlend and hauled to active range on the installation for berms construction

Project Cleanup Criteria

- Reduce soil concentrations at site to below 250 mg/kg such that:
 - Upper 95% confidence limit (UCL) of mean concentration < 250 ppm;
 - All samples < 2x cleanup level (500 mg/kg);
 - < 10% of the samples exceed 250 ppm

Sample Uncertainty Management

- Co-located field duplicate sites to assess impact of site heterogeneity
- 7 point precision samples collected from samples near action level to assess impact of within sample heterogeneity
- Collection of additional samples by immediate step-out to help refine impacted area



XRF Uncertainty Management

- Collaborative fixed laboratory samples collected after excavation completed
- Number of samples requiring fixed laboratory analysis determined based on the distribution of the XRF data.
- Number of samples (32 total) randomly selected from archived bags retained from each grid

Bullet Removal Sampling

- Visual inspection of sieved soil to confirm bullet removal
- 5 kg subsample/ ton collected and sieved with a 6.7 mm sieve
- Must contain $<0.1\%$ by volume bullet.



Treated Soil Sampling

- One 30-point composite sample collected per 100 CY stockpile for TCLP and pH
- TCLP \leq to 5.0 mg/L Pb.
- $2 < \text{pH} < 12$



Project Costs

- Total construction cost = \$800K
 - Approx. 6000 cy removed and treated
 - Includes clearing/grubbing and hydroseeding
 - Approx \$130/ton
- Projected cost for Don Bennett Range: 130 – 205K